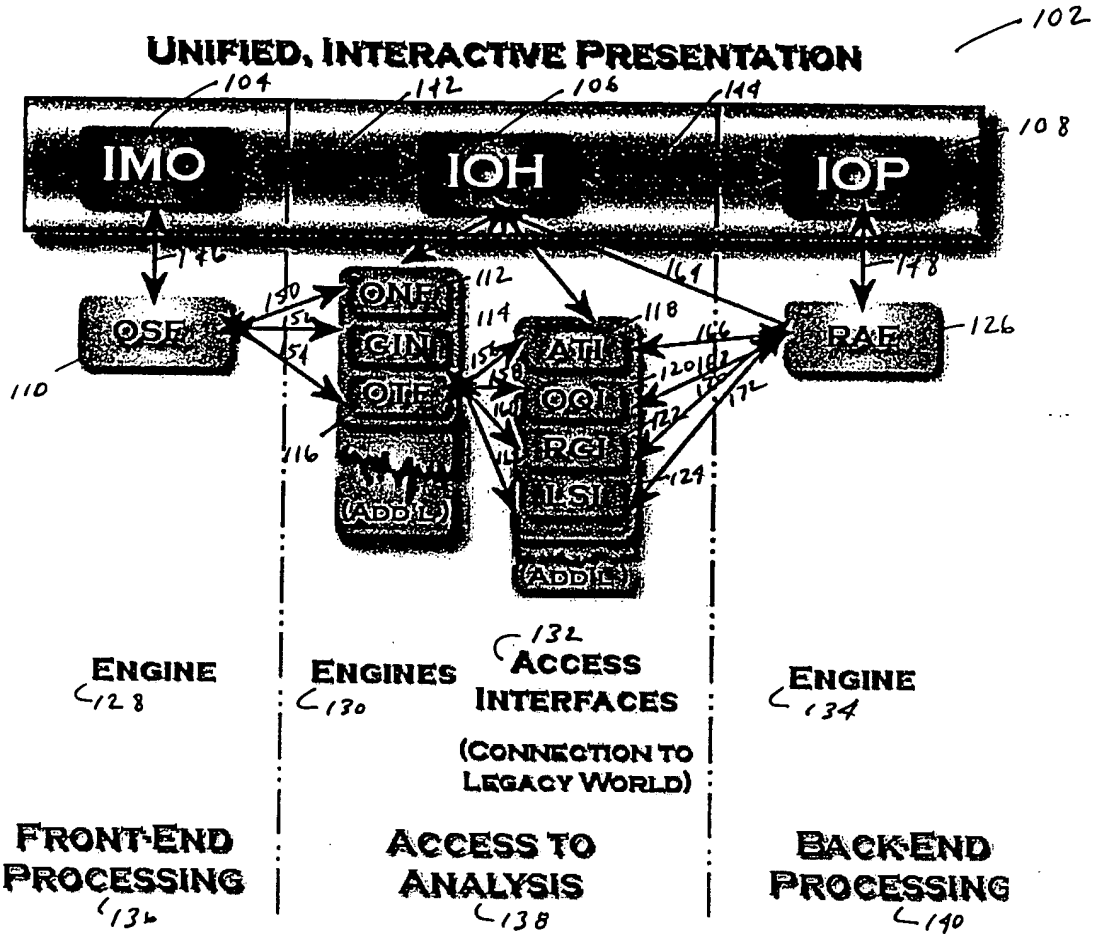
UNIFIED, INTERACTIVE PRESENTATION
102
IMO
IOH
IOP
104
142
106
144
108
146
148
OSF
110
ONF
GIN
OTE
(ADD'L)
112
114
116
ATI
OQL
RGL
ILSI
(ADD'L)
118
120
122
124
RAF
126
132
ENGINE
128
ENGINES
130
ACCESS INTERFACES
(CONNECTION TO LEGACY WORLD)
ENGINE
134
FRONT-END PROCESSING
136
ACCESS TO ANALYSIS
138
BACK-END PROCESSING
140

FIG. 1

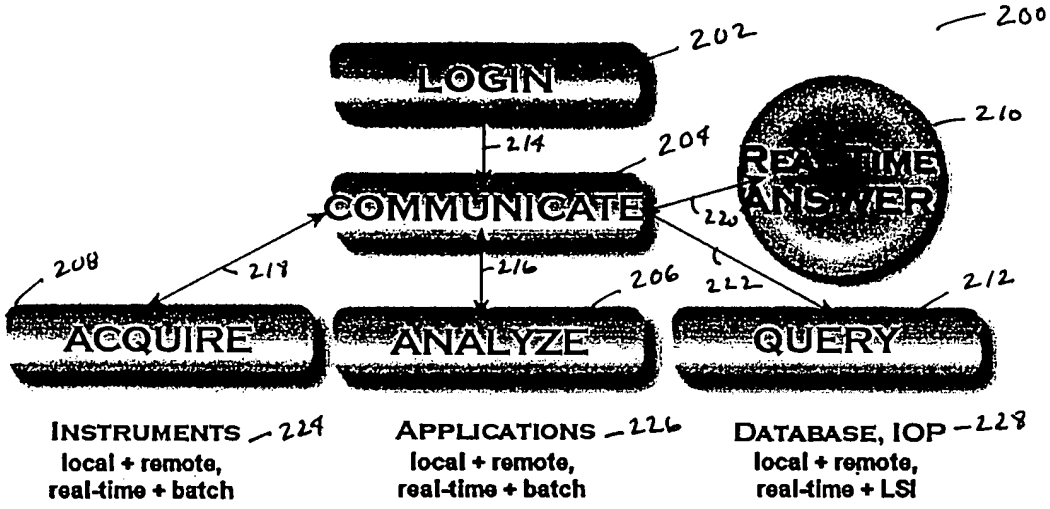
200
LOGIN
202
214
COMMUNICATE
204
REAL-TIME ANSWER
210
220
208
218
216
222
206
212
ACQUIRE
ANALYZE
QUERY
INSTRUMENTS 224
local + remote,
real-time + batch
APPLICATIONS 226
local + remote,
real-time + batch
DATABASE, IOP 228
local + remote,
real-time + LSI

FIG. 2

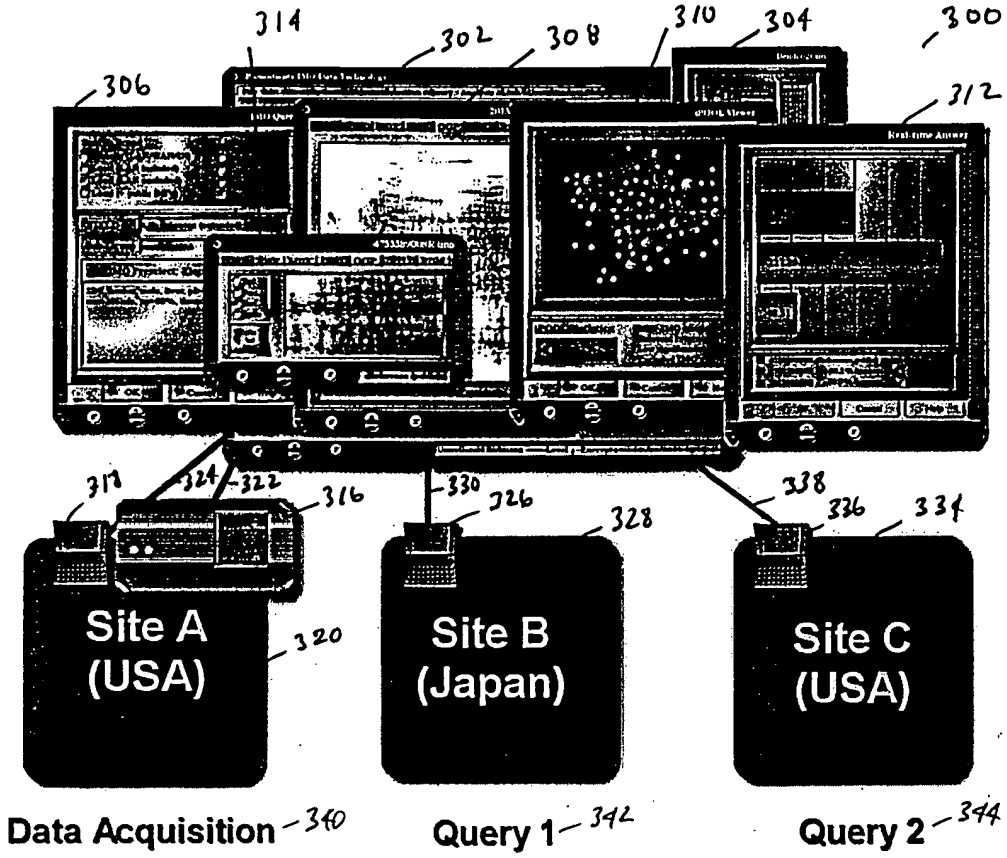
314
302
308
310
304
300
306
312
318
324
322
316
330
326
328
338
336
334
Site A
(USA)
320
Site B
(Japan)
Site C
(USA)
Data Acquisition
340
Query 1
342
Query 2
344

FIG. 3

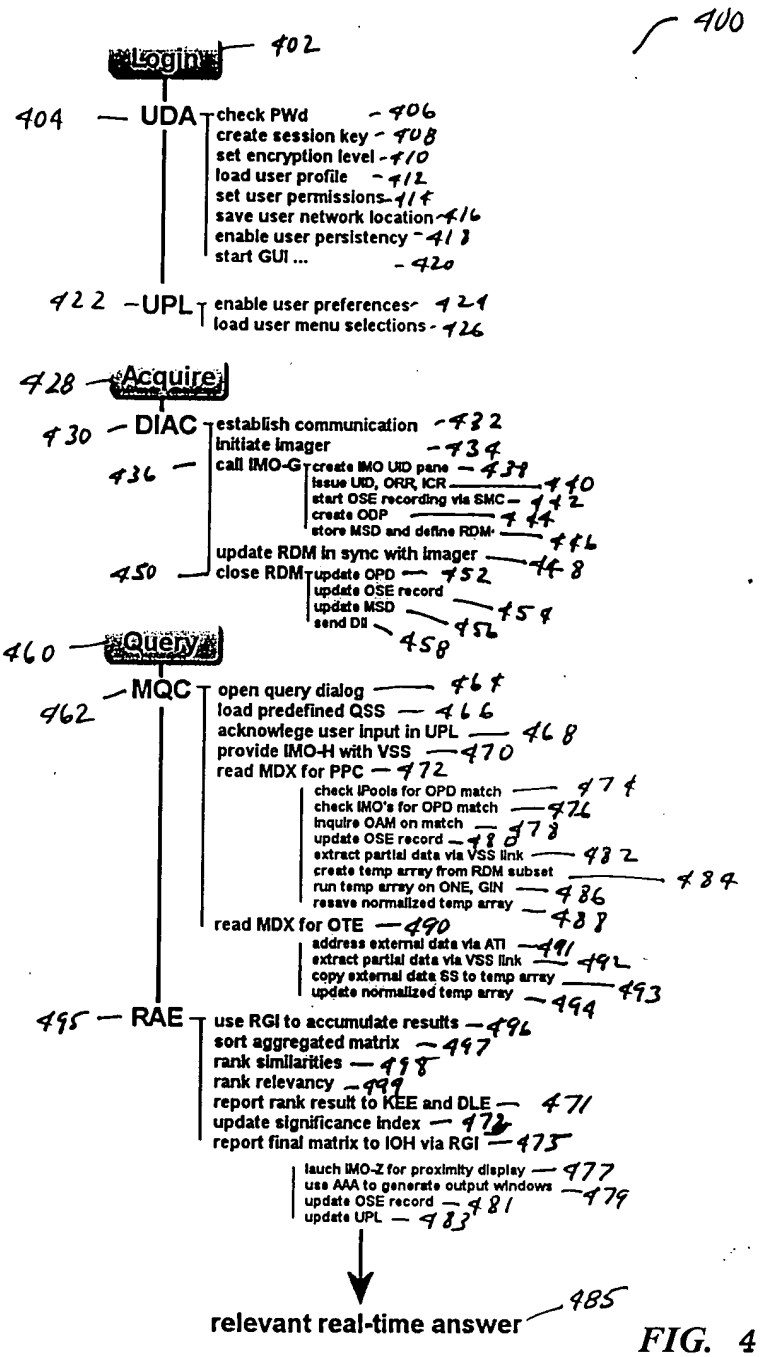
400
Login
402
404
UDA
check PWd
406
create session key
408
set encryption level
410
load user profile
412
set user permissions
414
save user network location
416
enable user persistency
418
start GUI ...
420
422
UPL
enable user preferences
424
load user menu selections
426
428
Acquire
430
DIAC
establish communication
432
initiate imager
434
436
call IMO-G
create IMO UID pane
438
issue UID, ORR, ICR
440
start OSE recording via SMC
442
create ODP
444
store MSD and define RDM
446
update RDM in sync with imager
448
450
close RDM
update OPD
452
update OSE record
update MSD
454
send DII
456
458
460
Query
462
MQC
open query dialog
464
load predefined QSS
466
acknowlege user input in UPL
468
provide IMO-H with VSS
470
read MDX for PPC
472
check IPools for OPD match
474
check IMO's for OPD match
476
inquire OAM on match
478
update OSE record
480
extract partial data via VSS link
482
create temp array from RDM subset
484
run temp array on ONE, GIN
486
resave normalized temp array
488
read MDX for OTE
490
address external data via ATI
491
extract partial data via VSS link
492
copy external data SS to temp array
493
update normalized temp array
494
495
RAE
use RGI to accumulate results
496
sort aggregated matrix
497
rank similarities
498
rank relevancy
499
report rank result to KEE and DLE
471
update significance index
472
report final matrix to IOH via RGI
473
lauch IMO-Z for proximity display
477
use AAA to generate output windows
479
update OSE record
481
update UPL
483
relevant real-time answer
485

FIG. 4

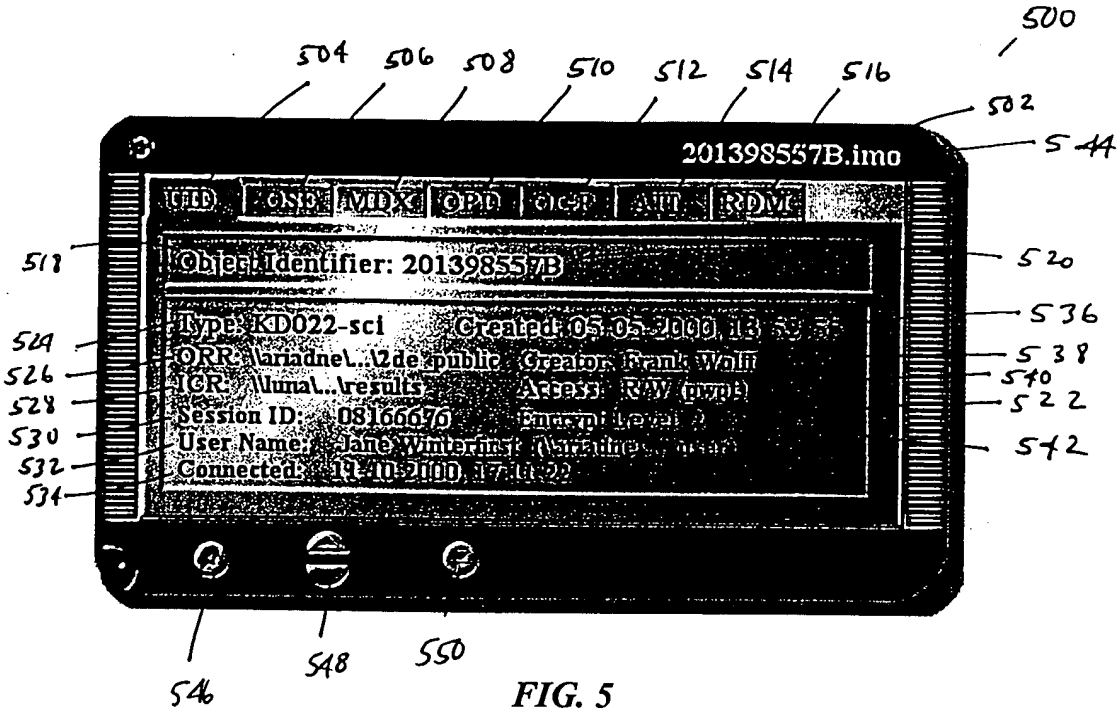

FIG. 5

EDS2E: 2000100A1

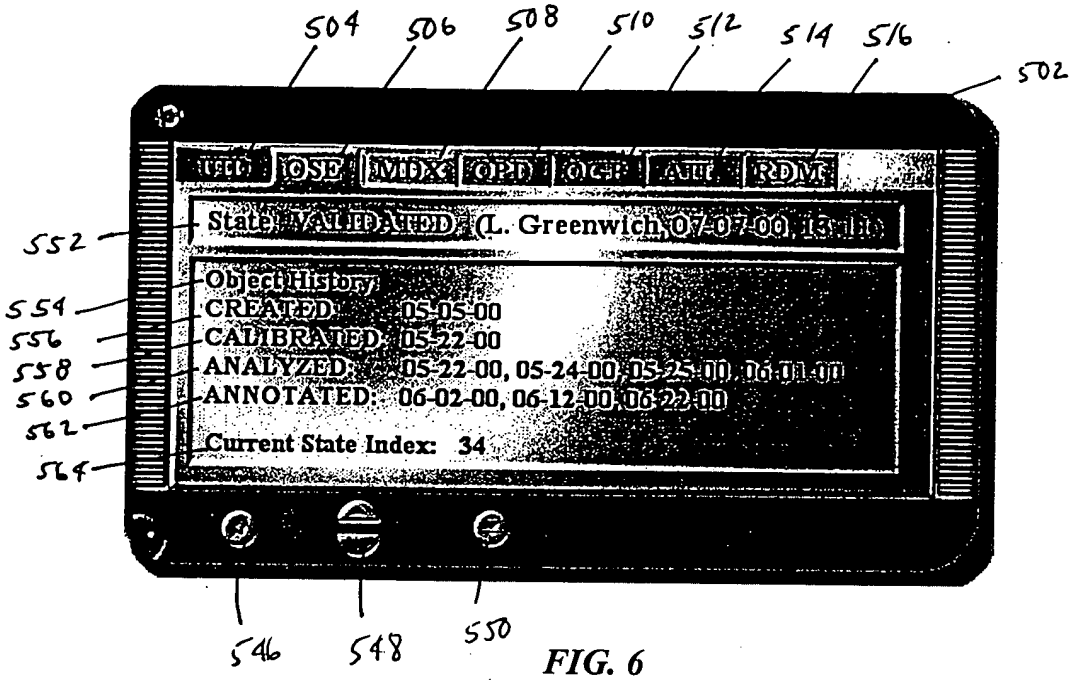
504
506
508
510
512
514
516
502
552
554
556
558
560
562
564
546
548
550
State: VALIDATED (L. Greenwich, 07-07-00, 13:10)
Object History
CREATED: 05-05-00
CALIBRATED: 05-22-00
ANALYZED: 05-22-00, 05-24-00, 05-25-00, 06-01-00
ANNOTATED: 06-02-00, 06-12-00, 06-22-00
Current State Index: 34

FIG. 6

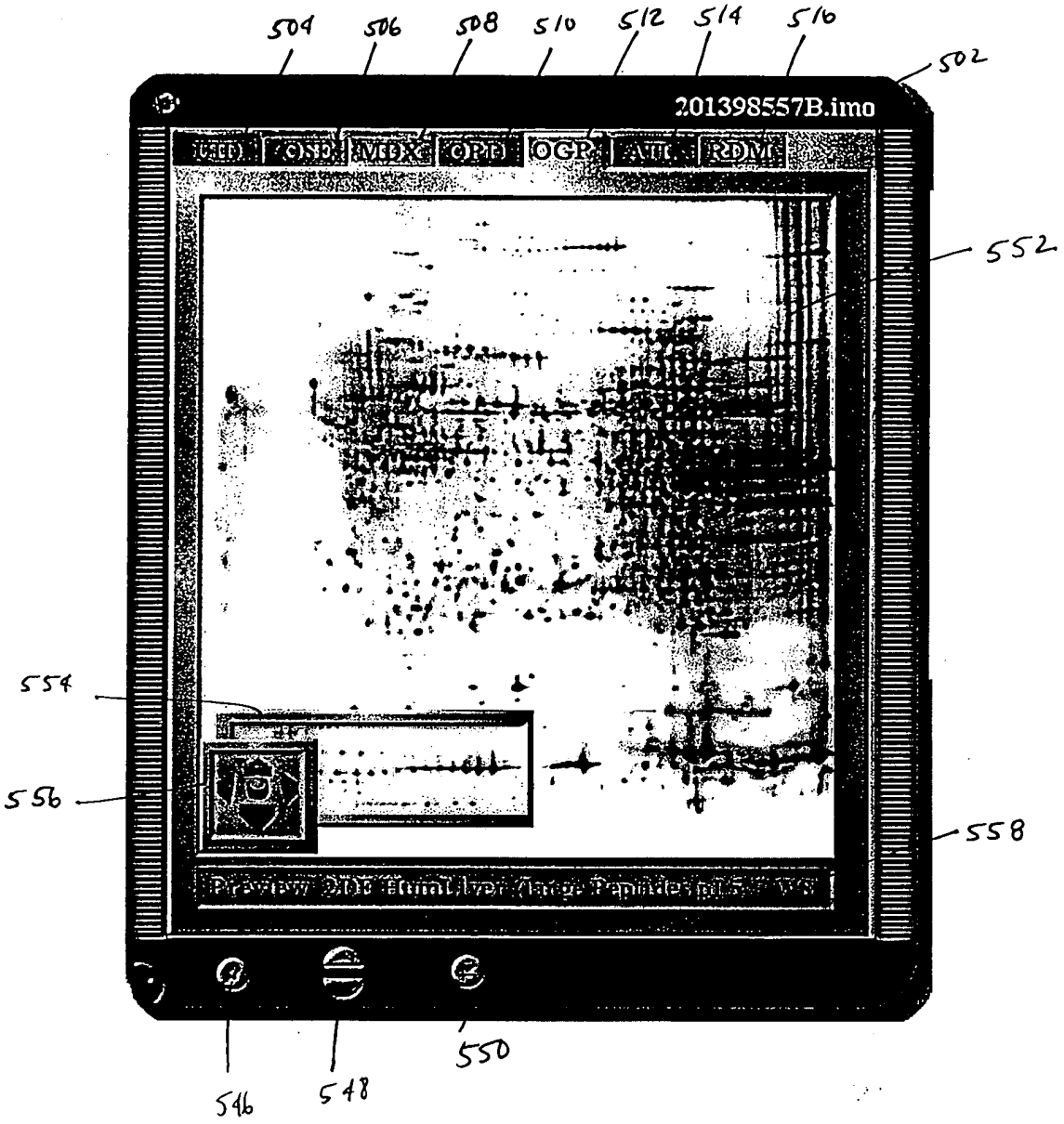
504
506
508
510
512
514
516
502
201398557B.imo
OSE
MDX
OGP
RDM
552
554
556
558
550
546
548

FIG. 7

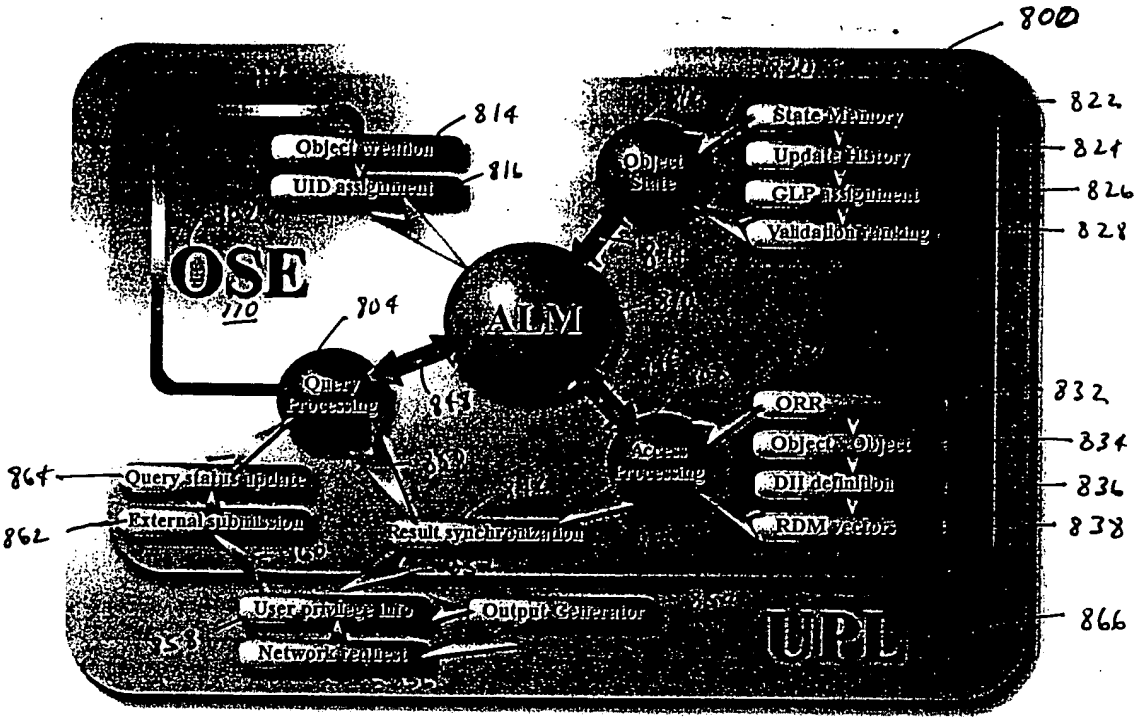
800
814
816
822
824
826
828
832
834
836
838
862
864
866
OSE
110
ALM
Object creation
UID assignment
Object State
State Memory
Update History
GUP assignment
Validation ranking
Query Processing
Access Processing
ORR
Object - Object
DII definition
RDM vectors
Query status update
External submission
Result synchronization
User privilege info
Output Generator
Network request
UPL

FIG. 8

IMO OSE State Lookup Table — 900

000 **Object created**

010 **Data acquisition**
011 DA in progress
012 DA interrupted
013 DA continued
014 DA completed

020 **Data type definition**
021 DT raw
022 DT matrix
023 DT structure
024 DT vector
025 DT pointer
026 DT path
027 DT binary
028 DT ASCII

040 **Bio-Calibrations**
041 C quantitation
042 C molecular weight
043 C isoelectric point
044 C enzyme-activity
045 C immunological activity
046 C other bio-activity

050 **Image-Calibrations**
051 C optical density (OD)
052 C fluorescence intensity
053 C luminescence intensity
054 C white balance
055 C light intensity
056 C dynamic range verification

060 **Measurement-Calibrations**
061 C origin
062 C size x
063 C size y
064 C position x
065 C position y
066 C position z
067 C length
068 C width
069 C depth

070 **Annotations**
071 Descriptive text
072 Base designation (DNA sequence)
073 Aminoacid designation (protein sequence)
074 Molecule function
075 Molecular structure

080 **Functionality information**
081 Organism
082 Metabolic phase
083 Disease relationship

100 **Standardization/normalization**
101 STD threshold
102 STD base function (e.g., baseline)
103 STD base plane (e.g., in 3D space)
14x STD all 04x (Bio; e.g., 141 STD quantitation)
15x STD all 05x (Image; e.g., 152 STD fluorescence intensity)

300 **Experiment validation**
301 Invalid conditions
302 Invalid experiment
303 Invalid interpretation
304 Invalid analysis tool applied
310 Unsure result
311 Unsure conditions
312 Unsure method
320 Validated method
321 Validated analysis
333 Validated experiment
340 Forensic experiment
350 Certified experiment

400 **Output request**
410 Numerical output generated
411 Graphical output generated
420 Remote output sent
430 Output printed

900 **Access information**
901 Access denied
902 Time limit exceeded
903 User limit exceeded
910 Inter-object communication granted
911 User access to object granted
920 Full access to object granted

FIG. 9

EXHIBIT 1004

1000

Object:

State	User/level	Network	Date/time stamp	(Explanation)
000	RAS/05	00220	12/20/2000 14:33:05	(object created)
011	WUD/02	00220	12/20/2000 14:33:07	(data: acquisition in progress)
014	WUD/02	00220	12/20/2000 16:53:07	(data: acquisition completed)
022	WUD/02	00220	12/20/2000 16:55:22	(data: matrix defined)
056	GOT/03	00220	12/21/2000 08:00:57	(image: dynam. range verified)
052	GOT/03	00220	12/21/2000 08:01:46	(image: fluoresc. intens. calib.)
041	GOT/03	00220	12/21/2000 08:16:31	(bio: quantitation calib.)
061	GOT/03	00220	12/21/2000 08:18:58	(image: origin calib.)
062	GOT/03	00220	12/21/2000 08:20:25	(image: size x calib.)
063	GOT/03	00220	12/21/2000 08:23:19	(image: size y calib.)
101	GOT/03	00220	12/21/2000 08:25:44	(std/norm: detection threshold)
164	GOT/03	00220	12/21/2000 08:41:12	(std/norm: measurement x)
165	GOT/03	00220	12/21/2000 08:45:30	(std/norm: measurement y)
901	KRE/05	00080	12/21/2000 08:45:31	(access denied)
911	AAH/02	04092	12/21/2000 08:45:44	(user: access to object granted)
071	AAH/02	04092	12/21/2000 08:45:50	(anno: descript. text)
024	GOT/03	00220	12/21/2000 08:52:12	(data: vector defined)
911	BLD/03	00693	12/21/2000 09:02:36	(user: access to object granted)
073	BLD/03	00693	12/21/2000 09:02:39	(anno: AA protein sequence)
045	GOT/03	00220	12/21/2000 09:14:08	(bio: immunol. activity)
046	GOT/03	00220	12/21/2000 09:39:41	(bio: other bio-activity)
410	GOT/03	00220	12/21/2000 09:42:31	(output: numerical output)
411	GOT/03	00220	12/21/2000 09:44:07	(output: graphical output)
430	GOT/03	00220	12/21/2000 09:42:31	(output: printed)
....				

FIG. 10

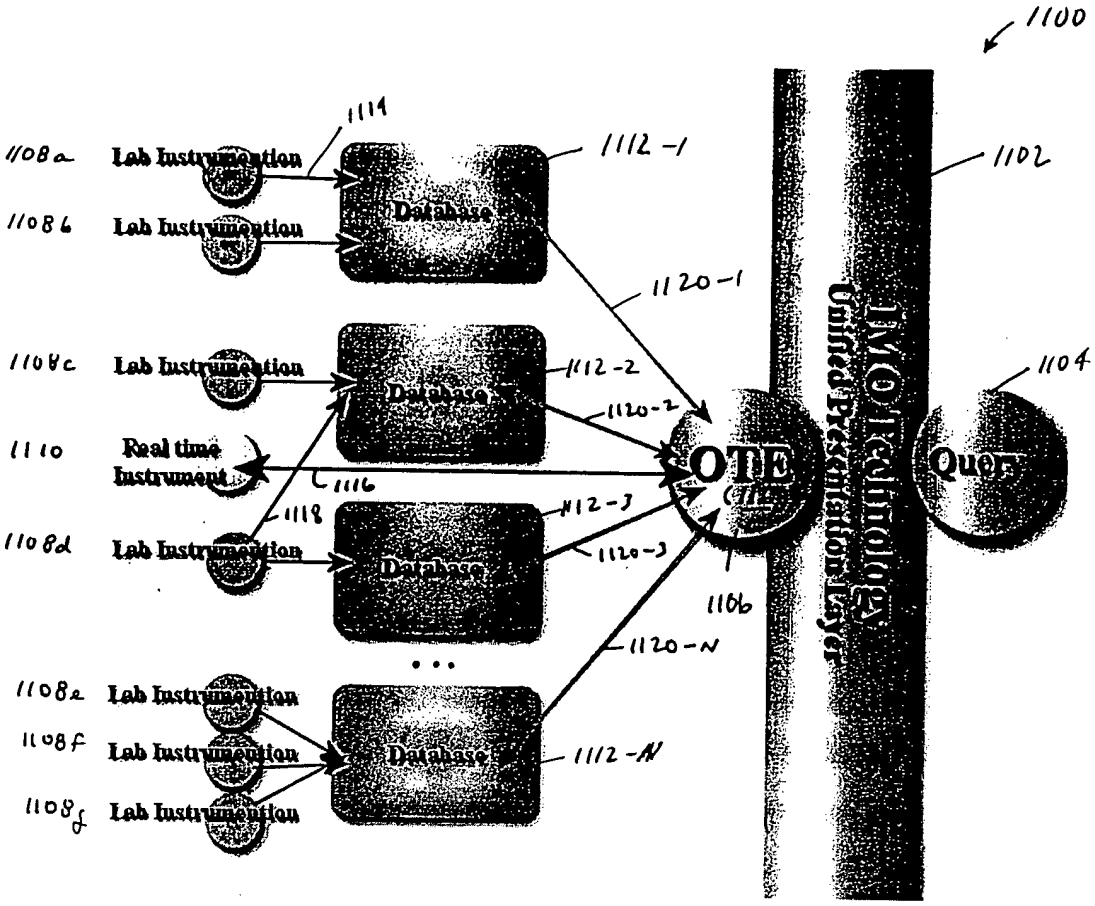
1100
1102
1104
1106
1108a
1108b
1108c
1108d
1108e
1108f
1108g
1110
1111
1112-1
1112-2
1112-3
1112-N
1116
1118
1120-1
1120-2
1120-3
1120-N
Lab Instrumentation
Lab Instrumentation
Lab Instrumentation
Real time Instrument
Lab Instrumentation
Lab Instrumentation
Lab Instrumentation
Lab Instrumentation
Database
Database
Database
Database
OTE
Que
LIMS Technology Unified Presentation Layer

FIG. 11

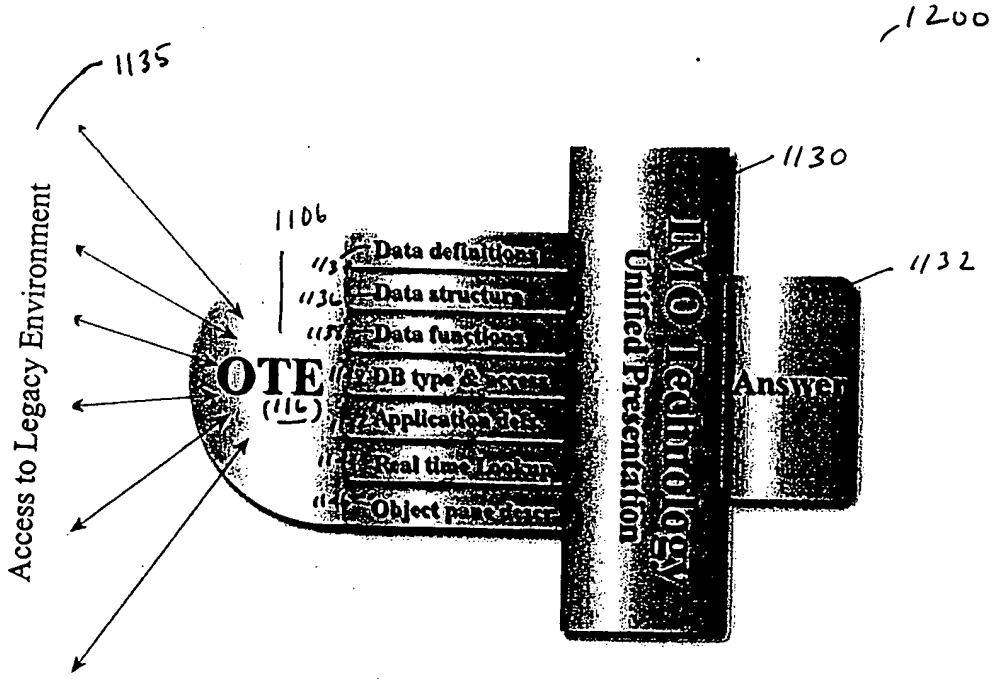
1200
1135
Access to Legacy Environment
1106
Data definitions
Data structures
Data functions
DB type & access
Application data
Real time locking
Object parameters
OTE
(116)
1130
IMO Technology
Unified Presentation
1132
Answer

FIG. 12

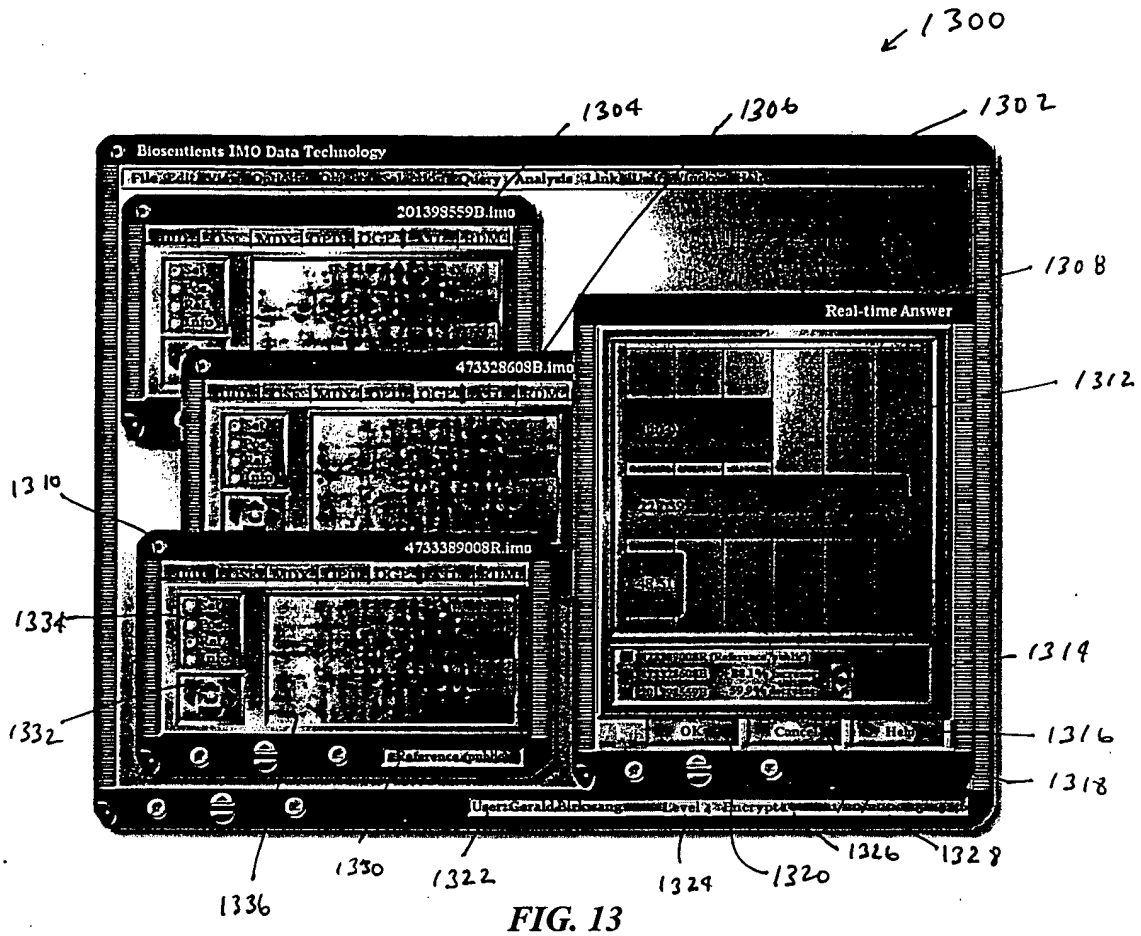
1300
1304
1306
1302
Biosentients IMO Data Technology
201398559B.imo
473328608B.imo
4733389008R.imo
Real-time Answer
1308
1312
1310
1334
1314
1332
OK
Cancel
Help
1316
1318
1336
1330
1322
1324
1320
1326
1328

FIG. 13

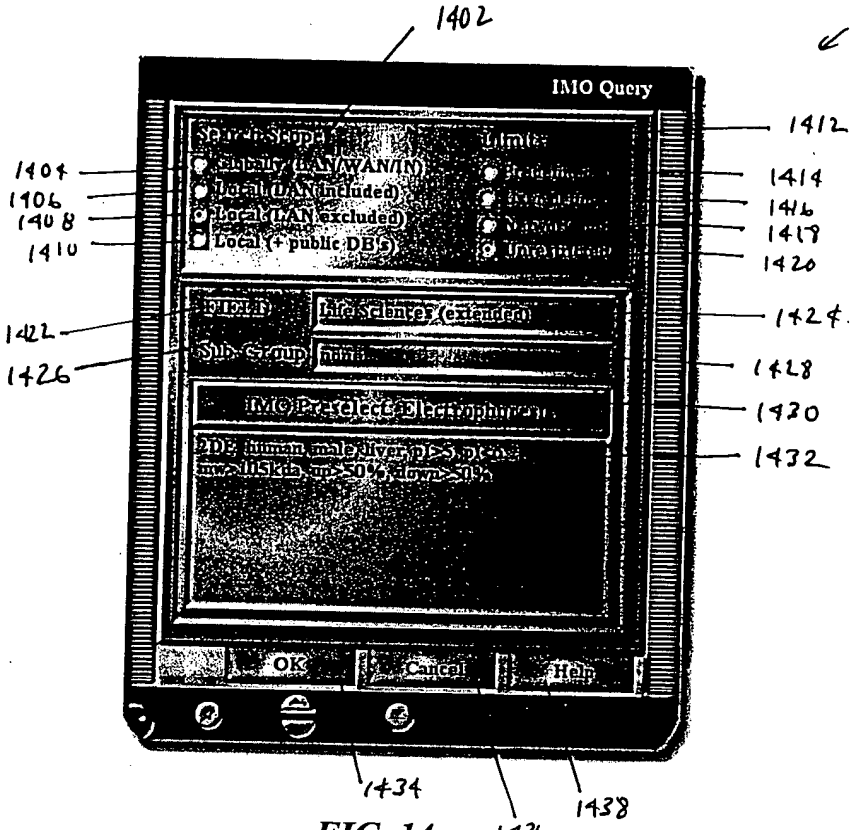
1402
1400
IMO Query
1412
1404
1414
1406
1416
1408
1418
1410
1420
1422
1424
1426
1428
1430
1432
OK
Cancel
Help
1434
1436
1438

FIG. 14

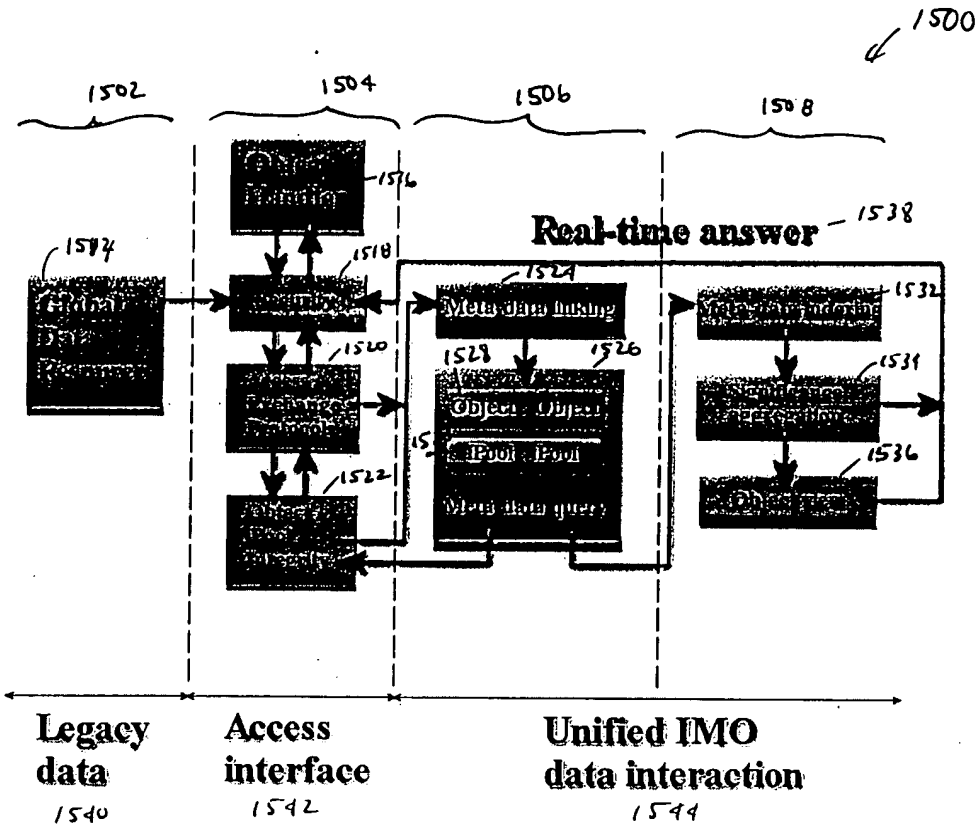
1500
1502
1504
1506
1508
1516
1538
Real-time answer
1514
1518
1524
1532
1520
1528
1526
1534
1522
1536
Meta-data linking
Object - Object
Pool - Pool
Meta-data query
Legacy data
1540
Access interface
1542
Unified IMO data interaction
1544

FIG. 15

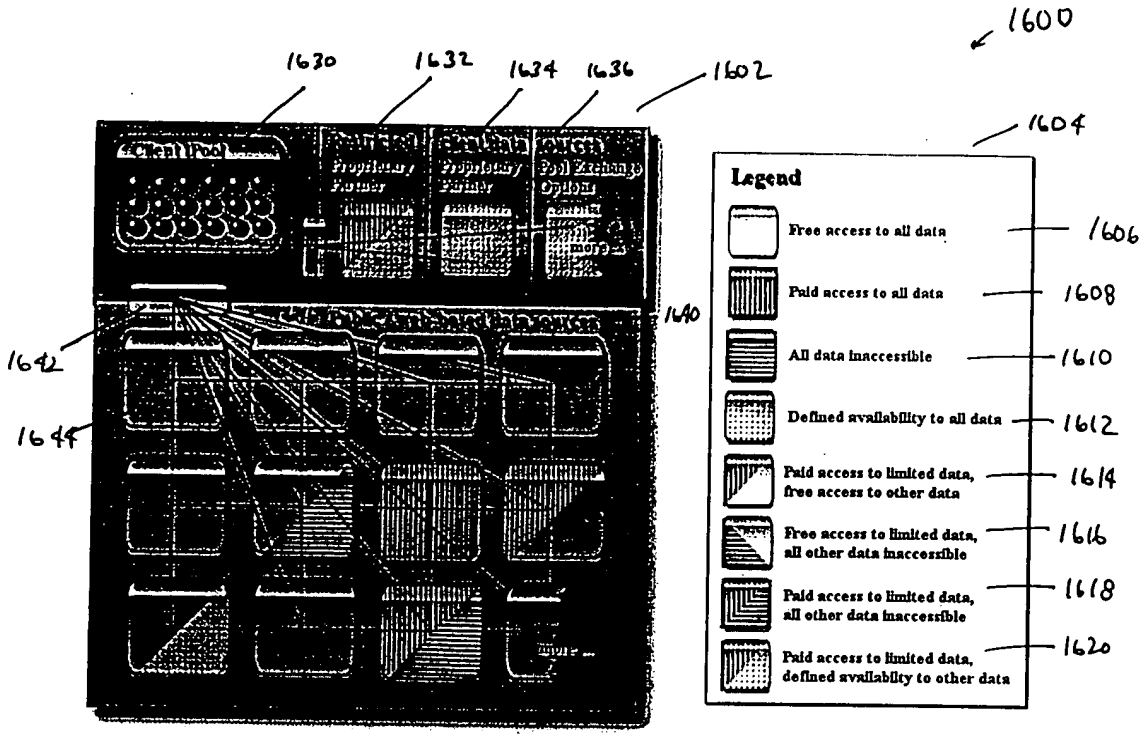
1600
1630
1632
1634
1636
1602
1604
1640
1642
1644
Legend
Free access to all data
1606
Paid access to all data
1608
All data inaccessible
1610
Defined availability to all data
1612
Paid access to limited data, free access to other data
1614
Free access to limited data, all other data inaccessible
1616
Paid access to limited data, all other data inaccessible
1618
Paid access to limited data, defined availability to other data
1620

FIG. 16

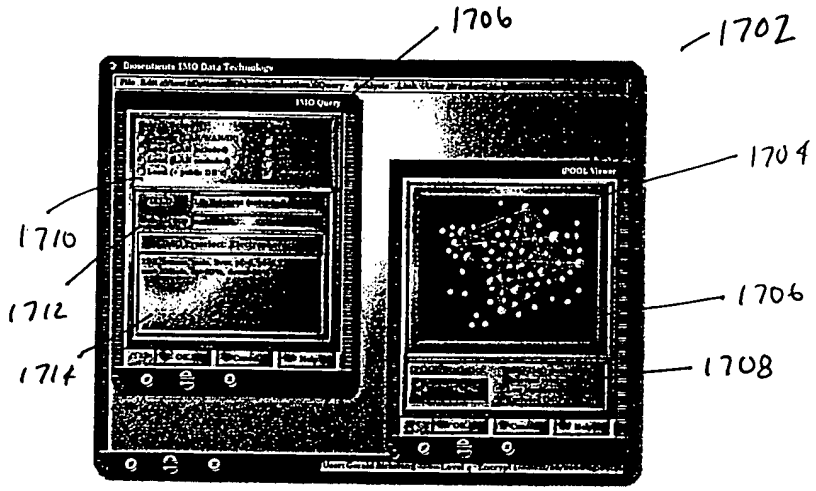

FIG. 17A

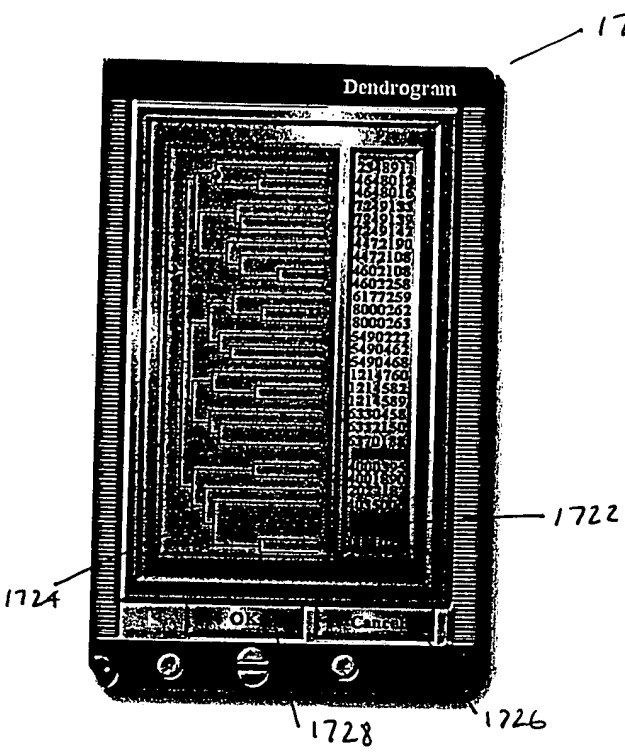

FIG. 17B

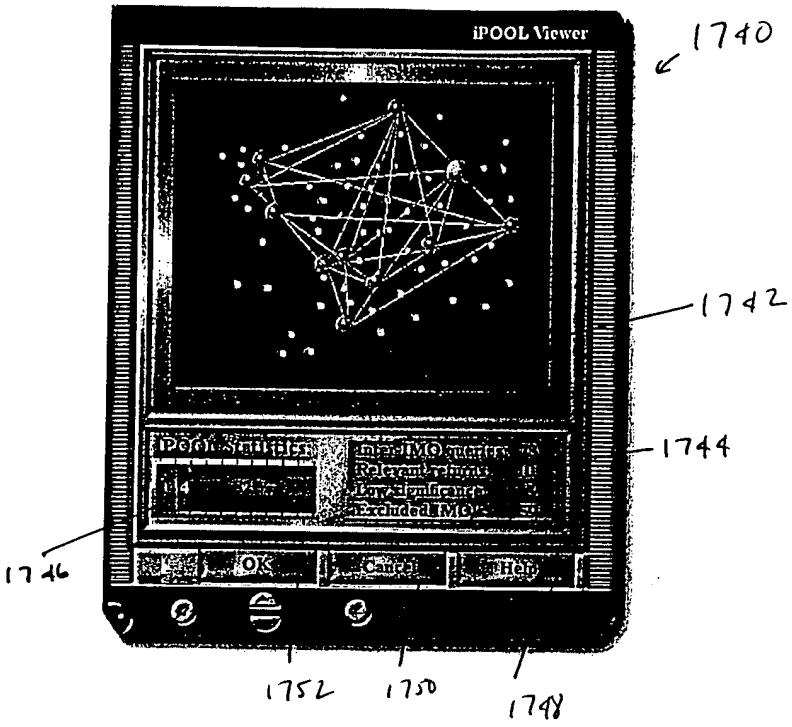

FIG. 17C

EXHIBIT - 9806805